

AMENDMENTS TO THE CLAIMS

1 (Currently Amended): An infrared identification system for identifying ~~military~~ vehicles as friendly or hostile, comprising:

means for introducing trace quantities of a seed formulation into the exhaust of a friendly vehicle; and

means for detecting the spectrally-discrete thermal emissions of the seed formulation to identify the vehicle as friendly.

2 (Currently Amended): The identification system as set forth in claim 1, wherein the detecting means includes:

an infrared detector;

an optical lens for collecting and concentrating the infrared radiation from the vehicle onto the infrared detector;

a high-resolution bandpass filter centered at a frequency of one of the spectrally-discrete thermal emissions of the seed formulation;

a threshold trigger; and

indicating means;

wherein the threshold trigger activates the indicating means when the total energy output by the bandpass filter exceeds a predetermined value, thereby indicating that the vehicle is friendly.

3 (Original): The identification system as set forth in claim 1, wherein the introducing means includes:

a pressurized tank for storing the seed formulation;

a valve for releasing the seed formulation from the tank; and

a nozzle for injecting the seed formulation into the exhaust of the vehicle.

4 (Original): The identification system as set forth in claim 1, wherein the seed formulation is selected from a group consisting of the halides hydrogen chloride (HCl), hydrogen bromide (HBr), hydrogen iodide (HI) and hydrogen fluoride (HF).

5 (Original): The identification system as set forth in claim 1, wherein the seed formulation is selected from a group consisting of the hydrides sodium hydride (NaH), calcium hydride (CaH) and potassium hydride (KH).

6 (Original): The identification system as set forth in claim 1, wherein the seed formulation is selected from a group consisting of the oxides beryllium oxide (BeO), germanium oxide (GeO), magnesium oxide (MgO), selenium oxide (SeO) and aluminum oxide (AlO).

7 (Original): The identification system as set forth in claim 1, wherein the trace quantities of the seed formulation range in concentration from approximately 0.1 to 2% of the exhaust of the vehicle.

8 (Currently Amended): The identification system as set forth in claim 1, 3, wherein the introducing means comprises:

a pressurized tank for storing the seed formulation;

a valve for releasing the seed formulation from the tank; and

a nozzle for injecting the seed formulation is injected into a combustor of an engine of the vehicle.

9 (Currently Amended): The identification system as set forth in claim 1, 3, wherein the introducing means comprises:

a pressure tank for storing the seed formulation;

a valve for releasing the seed formulation from the tank; and
a nozzle for injecting the seed formulation ~~is injected~~ into the fuel before being burned in an engine of the vehicle.

10 (Cancelled)

11 (Currently Amended): The identification system as set forth in claim 9, ~~3~~, ~~wherein the seed formulation is injected into the exhaust of the vehicle only~~ and further comprising a receiver for opening the valve when interrogated by a friendly source.

12 (Cancelled)

13 (Original): A method for identifying ~~military~~ vehicles as friendly or hostile, comprising the steps of:

introducing trace quantities of a seed formulation into the exhaust of a friendly vehicle; and

detecting the spectrally-discrete thermal emissions of the seed formulation to identify the vehicle as friendly.

14 (Currently Amended): The identifying method as set forth in claim 13, wherein the step of detecting includes the steps of:

concentrating the infrared radiation from the vehicle onto an infrared detector with an optical lens;

filtering the output of the infrared detector with a high-resolution bandpass filter centered

at a frequency of one of the spectrally-discrete thermal emissions; and

indicating that the vehicle is friendly when the total energy output by the bandpass filter exceeds a predetermined value.

15 (Original): The identifying method as set forth in claim 13, wherein the step of introducing includes the steps of:

storing the seed formulation in a pressurized tank;

releasing the formulation from the tank with a valve; and

injecting the seed formulation into the exhaust of the vehicle with a nozzle.

16 (Original): The identifying method as set forth in claim 13, wherein the seed formulation is selected from a group consisting of the halides hydrogen chloride (HCl), hydrogen bromide (HBr), hydrogen iodide (HI) and hydrogen fluoride (HF).

17 (Original): The identifying method as set forth in claim 13, wherein the seed formulation is selected from a group consisting of the hydrides sodium hydride (NaH), calcium hydride (CaH) and potassium hydride (KH).

18 (Original): The identifying method as set forth in claim 13, wherein the seed formulation is selected from a group consisting of the oxides beryllium oxide (BeO), germanium oxide (GeO), magnesium oxide (MgO), selenium oxide (SeO) and aluminum oxide (AlO).

19 (Original): The identifying method as set forth in claim 13, wherein the trace quantities of the seed formulation range in concentration from approximately 0.1 to 2% of the exhaust of the vehicle.

20 (Original): The identifying method as set forth in claim 15, wherein the seed formulation is injected into a combustor of an engine of the vehicle.

21 (Original): The identifying method as set forth in claim 15, wherein the seed formulation is injected into the fuel before being burned in an engine of the vehicle.

22 (Original): The identifying method as set forth in claim 15, wherein the seed formulation is injected into the exhaust of the vehicle as the exhaust exits the vehicle.

23 (Original): The identifying method as set forth in claim 15, wherein the seed formulation is injected into the exhaust of the vehicle only when interrogated by a friendly source.

24 (Original): The identifying method as set forth in claim 15, wherein the seed formulation is injected into the exhaust of the vehicle continuously.